

In the claims:

Amend claims 4, 6-12, 14, 20, 21, 25 and 28 as follows:

4. (Currently Amended) A tissue dissector comprising:

an elongated cannula, having a proximal end and a distal end;

a tip having tapered outer walls converging to a blunt end for

dissecting tissue and being disposed on the distal end of the cannula for inserting into tissue;

a dilating element disposed on the cannula at a location thereon intermediate the distal and proximal ends thereof and having an outer dimension greater than the dimension of the distal end of the cannula for ~~displacing~~ dilating dissected tissue to ~~form a~~ expand a surgical cavity therein; and

a locking mechanism, positioned near the distal end of the cannula at a location recessed from the tip disposed on the distal end of the cannula; and

the dilating element further ~~comprises~~ comprising a mating lock to ~~mate~~ mate near the distal end with the locking mechanism for positioning the dilating element on the cannula at a location thereon recessed from the distal end thereof.

6. (Currently Amended) A tissue dissector comprising:

an elongated cannula having a proximal end and a distal end;

3 a tip having tapered outer walls converging to a blunt end and being
4 disposed on the distal end of the cannula for ~~inserting into~~ dissecting tissue to form
5 a surgical cavity therein;

6 a dilating element disposed on the cannula at a location thereon
7 intermediate the distal and proximal ends thereof and having an outer dimension
8 greater than the dimension of the distal end of the cannula for ~~displacing~~ dilating
9 dissected tissue to ~~form a~~ expand the surgical cavity therein; and

10 a locking mechanism positioned near the distal end of the cannula at a
11 location recessed from the tip disposed on the distal end of the cannula, the dilating
12 element comprising a mating lock to mate near the distal end with the locking
13 mechanism for positioning the dilating element on the cannula at a location thereon
14 recessed from the distal end thereof, said locking mechanism further comprising a
15 length of screw threads positioned on the surface of the cannula, and the mating
16 lock of the dilating element further comprising a threaded bore hole for fixably
17 coupling the dilating element to the length of screw threads.

1 7. (Currently Amended) A tissue dissector comprising:

2 an elongated cannula having a proximal end and a distal end;

3 a tip having tapered outer walls converging to a blunt end and being
4 disposed on the distal end of the cannula for ~~inserting into~~ dissecting tissue to form
5 a surgical cavity therein;

6 a dilating element disposed on the cannula at a location thereon
7 intermediate the distal and proximal ends thereof and having an outer dimension
8 greater than the dimension of the distal end of the cannula for ~~displacing~~ dilating
9 dissected tissue to ~~form a~~ expand the surgical cavity therein; and

10 a locking mechanism positioned near the distal end of the cannula at a
11 location recessed from the tip disposed on the distal end of the cannula, the dilating
12 element comprising a mating lock to mate near the distal end with the locking
13 mechanism for positioning the dilating element on the cannula at a location thereon
14 recessed from the distal end thereof, said locking mechanism further comprising at
15 least one protuberance and the mating lock of the dilating element further
16 comprising a mating slot for fixably coupling the dilating element to the
17 protuberance.

1 8. (Currently Amended) A tissue dissector comprising:
2 an elongated cannula having a proximal end and a distal end;
3 a tip having tapered outer walls converging to a blunt end for
4 dissecting tissue and being disposed on the distal end of the cannula for inserting
5 into tissue;

6 a dilating element, of a population of dilating elements having
7 different maximum outer dimensions, disposed on the cannula at a location thereon
8 intermediate the distal and proximal ends thereof and having an outer dimension

9 greater than the dimension of the distal end of the cannula for ~~displaeing~~ dilating
10 dissected tissue to ~~form a~~ expand a surgical cavity therein; and
11 a locking mechanism positioned near the distal end of the cannula at a
12 location recessed from the tip disposed on the distal end of the cannula, the dilating
13 element comprising a mating lock to mate near the distal end with the locking
14 mechanism for positioning the dilating element on the cannula at a location thereon
15 recessed from the distal end thereof, the locking mechanism of the cannula being
16 lockable ~~dissector operating~~ with selected ones of a the population of dilating
17 elements of differing maximum dimensions for ~~enlarging a~~ expanding the surgical
18 cavity to differing dimensions.

1 9. (Currently Amended) A tissue dissector comprising:
2 an elongated cannula having a proximal end and a distal end;
3 a tip having tapered outer walls converging to form a blunt end for
4 dissecting tissue and being disposed on the distal end of the cannula for inserting
5 into tissue; and
6 a solid dilating element of fixed outer dimension disposed on the
7 cannula at a location thereon intermediate the distal and proximal ends thereof; and
8 ~~having an~~ the outer dimension of the dilating element being greater than the
9 dimension of the distal end of the cannula, ~~the dilating element being expansively~~

10 resilient for ~~displacing~~ dilating dissected tissue to ~~form a~~ expand a surgical cavity
11 therein.

1 10. (Currently Amended) A tissue dissector comprising:
2 an elongated cannula, having a proximal end and a distal end;
3 a tip having tapered outer walls converging to a blunt end for
4 dissecting tissue and being disposed on the distal end of the cannula for inserting
5 into tissue;

6 an expansively resilient dilating element ~~disposed on~~ attached to the
7 cannula at a location thereon intermediate the distal and proximal ends thereof and
8 having an outer dimension greater than the dimension of the distal end of the
9 cannula for ~~displacing~~ dilating tissue to ~~form~~ in a surgical cavity therein formed in
10 tissue; and

11 a sheath slidably ~~positioned~~ retained on the cannula, and having a
12 distal end disposed upon the dilating element in a first position and recessed from
13 the dilating element in a second position, for ~~reducing~~ confining the outer
14 dimension of the dilating element within the sheath ~~responsive to being~~ in the first
15 position and for ~~allowing the~~ releasing resilient expansion of the outer dimension of
16 the dilating element responsive to the sheath being in the second position.

1 11. (Currently Amended) A tissue dissector comprising:
2 an elongated cannula, having a proximal end and a distal end;

3 a tip having tapered outer walls converging toward a blunt end for
4 dissecting tissue and being disposed on the distal end of the cannula for inserting
5 into tissue; and

6 a dilating element ~~disposed on the cannula at a location thereon~~
7 ~~intermediate the distal and proximal ends thereof~~ and having an outer dimension
8 greater than the dimension of the distal end of the cannula for ~~displacing~~ dilating
9 tissue to ~~form a~~ expand a surgical cavity therein; ~~in which~~ the tip and the dilating
10 element ~~form~~ forming a single unit and with a proximal threaded end of the unit
11 ~~comprises a threaded end and the distal end of the cannula has~~ mating with
12 compatible threads disposed on ~~an inner surface of the distal end of the cannula,~~
13 ~~for allowing the proximal end of the unit to mate with the distal end of the cannula.~~

1 12. (Currently Amended) A method for enlarging a surgical cavity
2 about a target vessel, using a tissue dissector having a portion thereof of solidly
3 expanded dimension and having a transparent tip with tapered outer walls
4 positioned at the distal end of the tissue dissector, the method comprising:

5 incising skin overlaying the target vessel;
6 dissecting within the incision to expose a surface of the target vessel;
7 positioning a tapered outer wall of the transparent tip of the tissue
8 dissector on the surface of the vessel;

9 advancing the tip of the tissue dissection dissector through tissue to
10 form a surgical cavity therein along the vessel under endoscopic visualization
11 through the transparent tip; and
12 simultaneously expanding the surgical cavity in a lateral direction
13 responsive to advancing the portion of the tissue dissector of expanded dimension,
14 ~~as the tissue dissector is advanced~~ through the surgical cavity in dissected tissue.

1 13. (Currently Amended) The method of claim 12 comprising:
2 removing the tissue dissector from the expanded surgical cavity;
3 increasing the dimension of the portion of the tissue dissector of
4 expanded dimension; and
5 re-inserting the tissue dissector into the surgical cavity for
6 advancement therein to expand the dimension thereof in response to passage ~~there~~
7 ~~through~~ therethrough of the portion of the tissue dissector of increased dimension.

1 14. (Currently Amended) A method of dilating tissue along a course of
2 a vessel using a surgical device having a solid dilating element disposed near a
3 tissue-dissecting transparent tapered tip, comprising:
4 incising skin ~~overlying~~ overlaying the vessel in tissue to be dilated;
5 inserting the surgical device into the incision toward the vessel; and
6 advancing the device to dissect a channel through tissue along the
7 course of the vessel and concurrently visualizing the tissue and dilating the

8 dissected tissue responsive to the advancement of the device through tissue to
9 expand the channel.

1 20. (Currently Amended) A method for enlarging a surgical cavity
2 about a target vessel, using a tissue dissector having a portion thereof of ~~having a~~
3 fixed expanded dimension and having a transparent tip with tapered outer walls
4 converged to a blunt end and positioned at the distal end of the tissue dissector, the
5 method comprising:
6 incising skin;
7 dissecting within the incision to expose a surface of the target vessel;
8 positioning a tapered outer wall of the transparent tip of the tissue
9 dissector on the surface of the vessel;
10 advancing the tip of the tissue dissection dissector through tissue to
11 form a surgical cavity therein along the vessel under endoscopic visualization
12 through the transparent tip; and
13 simultaneously expanding the surgical cavity in a lateral direction
14 responsive to the portion of the tissue dissector of expanded dimension, as the
15 tissue dissector is advanced through tissue along the vessel.

1 21. (Currently Amended) A method of dilating tissue using a surgical
2 device having a dilating element of fixed size disposed near a transparent tapered
3 tip, comprising:

4 incising skin overlying tissue to be dilated;
5 inserting the surgical device into the incision; and
6 advancing the device to dissect tissue and concurrently visualizing the
7 tissue and dilating the dissected tissue responsive to the advancement of the device
8 through the tissue.

1 22. A handle for an elongated tissue dissection device comprising:
2 an attachment to the dissection device; and
3 a singular hand grip securely supported on the attachment in skewed
4 orientation with respect to the dissection device.

1 23. The handle of claim 22, wherein the hand grip is positioned above the
2 tissue dissection device.

1 24. The handle of claim 23, in which the hand grip is integrally formed
2 with the attachment.

1 25. (Currently Amended) A handle for a dissection device which has
2 an elongated axis ~~lying in a plane~~, the handle comprising:
3 an attachment to the dissection device; and
4 a hand grip supported on the attachment in an orientation ~~out of the~~
5 ~~plane of~~ including a component eccentric the elongated axis.

1 26. The handle of claim 25, in which the hand grip is positioned above the
2 dissection device.

1 27. The handle of claim 25, in which the hand grip is integrally formed
2 with the attachment.

1 28. (Currently Amended) An apparatus comprising:
2 an elongated rigid tubular dissection device ~~lying substantially in a~~
3 plane having an elongated axis;
4 an attachment to the dissection device ~~lying outside the plane~~ disposed
5 in skew orientation to the elongated axis; and
6 a hand grip supported on the attachment ~~in an orientation out of the~~
7 plane of the dissection device.

1 29. The apparatus of claim 28, wherein the hand grip is positioned above
2 the dissection device.

1 30. The apparatus of claim 28, wherein the hand grip is integrally formed
2 with the attachment to the dissection device.

1 31. The apparatus of claim 28, wherein the attachment overlays a
2 proximal tubular portion of the length of the dissection device.

1 32. The apparatus of claim 28, in which the tubular dissection device
2 includes a proximal end disposed to provide access to a lumen of the tubular
3 dissection device through the attachment.

1 33. The apparatus of claim 28, in which the attachment includes a portion
2 thereof oriented substantially normal to the tubular dissection device near a
3 proximal end thereof; and

4 the hand grip is formed integrally with the attachment in skewed
5 orientation to said portion thereof.